



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

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OFFICE OF  
ECOSYSTEMS,  
TRIBAL AND PUBLIC  
AFFAIRS

May 11, 2015

Joe Hudson, District Ranger  
Moose Creek Ranger District  
831 Selway Road  
Kooskia, ID 83539

Dear Mr. Hudson:

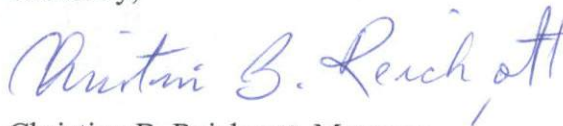
The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the proposed **Johnson Bar Fire Salvage Project** on the Moose Creek Ranger District of the Nez Perce-Clearwater National Forests (EPA Project #14-0057-AFS). Our review was conducted in accordance with EPA responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA).

The DEIS analyzes the Forest Service's proposal to salvage trees (commercial timber harvest and temporary road construction) which were killed in the 2014 Johnson Bar wildfire, and conduct watershed improvement activities (road decommissioning and storage). The purpose of the project is to recover economic value, achieve desired age and size classes, trend tree species composition toward more resilient species, and to reduce road related impacts to aquatic species and the watersheds. Three action alternatives and a no action alternative were analyzed. Alternative 2 is the Proposed Action. Treatments under Alternative 2 include 2,973 acres of harvest, the use of 57.8 miles of system roads, 10.6 miles of road reconstruction, 3.1 miles of temporary road construction, and 19 helicopter landings (of which 9 would be new construction). Watershed improvement activities under Alternative 2 include 21.3 miles of road decommissioning, and 4.8 miles of road storage. Alternative 3 would reduce overall ground disturbance by decreasing harvest, road use and helicopter landings. Alternative 4 would increase the economic viability of the project by eliminating some of the higher cost (helicopter) units. The Johnson Bar wildfire burned over 13,000 acres. The designated project area is 26,788 acres in size.

The EPA understands the underlying need for this project, and we appreciate the inclusion of watershed improvement activities and the decision to focus salvage activities outside of riparian habitat conservation areas (RHCAs). We also appreciate the proposed retention of large snags ( $\geq 15$  inches diameter at breast height) and the proposal to harvest only in units where tree mortality is greater than 50 percent. Our review did identify a need for additional information about herbicide application and associated project design criteria. Our review also identified questions related to long-term landscape structure (in terms of spatial and species complexity and the mix of seral stages). Our detailed comments lay out these questions and concerns.

Based on our review, we are rating the DEIS as EC-2 (Environmental Concerns – Insufficient Information). We appreciate the opportunity to review and comment on the DEIS, and we look forward to furthering our understanding of this and other projects that develop through the efforts of the Clearwater Basin Collaborative. If you have any questions about our review, please contact me at (206) 553-1601, or by electronic mail at [reichgott.christine@epa.gov](mailto:reichgott.christine@epa.gov). Or you may contact Teresa Kubo of my staff at 503-326-2859 or by electronic mail at [kubo.teresa@epa.gov](mailto:kubo.teresa@epa.gov).

Sincerely,

A handwritten signature in blue ink that reads "Christine B. Reichgott". The signature is written in a cursive style with a large, stylized "R" and "G".

Christine B. Reichgott, Manager  
Environmental Review and Sediment Management Unit

Enclosure:

1. EPA Region 10 Detailed Comments on the Johnson Bar Fire Salvage Draft EIS

EPA Region 10 Detailed Comments on the  
Johnson Bar Fire Salvage Draft EIS

**Herbicide Application**

Page 165 of the DEIS states that "levels of herbicide application would be expected to increase initially under all action alternatives as existing weed populations are treated and design criteria for other activities are developed and implemented." It is not clear from the document what suite of project design criteria (PDC) or best management practices (BMPs) would apply to weed management under the Johnson Bar project. We recommend that the FEIS provide information on the herbicide application BMPs/PDC to be applied under the proposed project and/or clarify the source for any BMPs or PDCs incorporated by reference.

**Recommendation:**

1. Clarify in Section 3.11 (Weeds) how herbicide application will be directed and managed under the proposed project. Under regulatory framework (Section 3.11.2) we recommend referencing Forest Service Handbook 2109.14 (Chapters 10, 40, 50).
2. Clarify in section 2.9 (Design Criteria) which design criteria would be included as components common to all action alternatives with regard to herbicide application.
3. We recommend referencing or incorporating by reference the BMPs included in the USDA National Best Management Practices for Water Quality Management on National Forest System Lands<sup>1</sup>.

**Design Criteria - Vegetation**

In Section 3.9.5.4 (Desired Stand Conditions), the DEIS states that stand densities are desired to be over 35% maximum stand density index (SDI) stocking and less than 55% maximum SDI stocking. Table 3-35 (Desired Stand Conditions) shows that at the seedling stage, desired conditions for moist mixed conifer stands include 300-2000 trees per acre, of which over 250 trees would be early seral species (white pine, western larch, ponderosa pine). In order to achieve this desired condition, the project design criteria in Section 2.9.6 (Vegetation) call for the planting of 300-400 trees per acre of early seral species.

We appreciate that the Forest must be responsive to regulations related to replanting (36 CFR 219.27), and we recognize that 35-55% SDI is commonly used to define a stand as fully stocked; therefore, the proposed planting density does not appear to align well with recent science related to moist mixed conifer stands. A recent Forest Service science synthesis found that of 15 estimates of historic small, medium, and large tree stand densities from different dry and moist mixed conifer types and environments (based on seven total studies), 12 estimates fell within the range of 16 to 70 trees per acre. If we assume that the pre-settlement density of trees in mixed-conifer patches was 40 trees per acre, then the proposed planting density under the Johnson Bar project would be 7 to 10 times the historic densities of some patches.

We further note that the DEIS does not specify how landscape structure and composition will be considered with regard to replanting. If planting is to be applied uniformly across the treated acres, the

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<sup>1</sup> USDA Forest Service. 2012. National Best Management Practices for Water Quality Management on National Forest System Lands. Volume 1: National Core BMP Technical Guide. FS-990a.  
[http://www.fs.fed.us/biology/resources/pubs/watershed/FS\\_National\\_Core\\_BMPs\\_April2012.pdf](http://www.fs.fed.us/biology/resources/pubs/watershed/FS_National_Core_BMPs_April2012.pdf)

result may be coarser grained, more homogenous patch types (which may be more susceptible to high-severity fire).

The DEIS states on page 143 that the project area will be more resilient and fire resistant following planting because it will be populated by early seral species that are more resistant to fire, as well as attacks from insects and disease. Early seral species can be more resilient to these stressors is well established, however, research brings into question the extent to which planting post-salvage can reduce fire risk. In a 2010 research paper, Thompson and Spies<sup>2</sup> examined whether areas that were salvage-logged and planted with conifers after the Silver Fire in Oregon burned more or less severely in the subsequent Biscuit Fire when compared to unmanaged areas. Their findings suggest that the planted areas had somewhat higher vegetation cover than the unmanaged stands, and the higher live and dead fuel continuity in those plantations played a role in creating more flammable vegetation types.

While these findings may not be directly transferrable to the Johnson Bar project, we believe they raise questions about the long term landscape structure and fire resilience of plantations that should be examined more closely in the FEIS. Particular attention should be given to anticipated stand development out to 25 years. Research has shown plantation age to be a key predictor of canopy damage due to fire, with the level of fire-related canopy damage reaching its maximum around age 15 and staying relatively high until age 25 before declining<sup>3</sup>.

**Recommendations:**

- We recommend the FEIS consider historic tree densities and how the proposed project fits within the historic range of variability (HRV). If proposed planting densities (accounting for anticipated mortality) fall outside the HRV, we recommend the FEIS discuss how plantation density will be managed (particularly out to 25 years).
- We recommend the FEIS provide additional analysis of future landscape structure in terms of species, spatial composition, and seral stages. Where planting densities are high (300-400 seedlings per acre) we recommend the FEIS give additional consideration to the potential for increased fire risk.

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<sup>2</sup> Thompson, J.R., T. Spies. (2010). "Factors associated with crown damage following recurring mixed-severity wildfires and post-fire management in southwestern Oregon." *Landscape Ecology* 25 (5) (2010), pp. 775–789

<sup>3</sup> Thompson, J. R., T. A. Spies, et al. (2011). "Canopy damage to conifer plantations within a large mixed-severity wildfire varies with stand age." *Forest Ecology and Management* 262(3): 355-360